Project Information Sheet

Project: 801101 WPCP Air Conditioning Project

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	1995-96	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project replaces the heating, ventilation, and air-conditioning systems in the Primary Building and the Laboratory Building at the City's Water Pollution Control Plant.
The HVAC systems in both buildings are old, energy inefficient and becoming increasingly expensive to maintain.

The cost relates to the complexity and the range of the projects. For the Primary building, there are five "package units" that need to be evaluated for replacement, potentially with fewer units, but still to cover a mix of uses including: large electrical equipment, temperature-sensitive control panels, and working spaces (offices, training room, etc.). For the lab, the HVAC replacement system needs to be upgraded to meet code requirements for air exchanges for worker safety, and the heating and cooling systems are under review for the best alternative for repair/replacement. Project funding will cover both design and construction.

This project will implement the recommendations from the energy audit/hot water loop study which will determine the feasibility of using surplus energy from the heat loop to provide air-conditioning through absorption chillers. Surplus heat would be used for replacement of the Laboratory building boiler and for the necessary heating of the Primary building.

The condition of existing buildings will be addressed in the strategic infrastructure plan. However, it is not anticipated that they will be torn down, only refurbished where needed.

The useful life expectancy of a new air-conditioning system would be 20 years.

Project Evaluation & Analysis

The current HVAC systems of the two buildings are inadequate to provide air recirculation rates and are costly to maintain due to age. The project alternative now being studied would utilize surplus energy generated by plant operations. Utilizing new technology, the system would provide a substantial cost savings over current systems that now rely on purchased energy providing operational cost savings. The current HVAC systems are inadequate, causing operational problems and potential safety hazards.

Fiscal Impact

This project will be funded from the utility fund account. The current budgeted amount is $925,000 including $575,000 in the 06/07 budget and is based on replacement of the two HVAC systems with conventional methods. The final cost will be determined when the Heat Loop Study is complete and the design of the new system has been identified. Utilizing energy from the heat loop system will provide overall operational efficiency and cost savings for the future of the system.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	5,970	0	5,671	0
2006-07	775,000	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	780,970	0	5,671	0

Project Information Sheet

Project: 804653 Storm Drain Development Costs (City Share)

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	1999-00	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Marvin Rose

Funding Sources: Wastewater Revenues

Project Description/Scope/Purpose

This project reimburses developers for constructing storm drainage facilities beyond their frontage in the public right-of-way. The Sunnyvale Municipal Code (SMC) requires reimbursement to developers for a portion of off-site improvement. This is a city-wide project, and is necessary for providing funds in situations where a developer is required to extend the improvements beyond the frontage of their development in order to connect to an existing system.

Project Evaluation & Analysis

This work is currently required by the SMC.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	28,000	0	0	0
2007-08	28,000	0	0	0
2008-09	28,000	0	0	0
2009-10	28,560	0	0	0
2010-11	29,131	0	0	0
2011-12	29,714	0	0	0
2012-13	30,308	0	0	0
2013-14	30,914	0	0	0
2014-15	31,533	0	0	0
2015-16	32,163	0	0	0
2016-17	32,806	0	0	0
2017-18	33,791	0	0	0
2018-19	34,804	0	0	0
2019-20	35,849	0	0	0
2020-21	36,924	0	0	0
2021-22	38,032	0	0	0
2022-23	39,173	0	0	0
2023-24	40,348	0	0	0
2024-25	41,558	0	0	0
2025-26	42,805	0	0	0
2026-27	44,089	0	0	0
20 Year Total	688,502	0	0	0
Grand Total	716,502	0	0	0

Project Information Sheet

Project: 804703 Storm Drain Pipes, Manholes, and Laterals Replacement

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	1999-00	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for miscellaneous small storm drainage projects that may arise unexpectedly. This allows for the replacement of damaged grates or deteriorated drain inlets (DIs), or grouting (sealing) of leaking pipes and manholes as identified. More significant projects would have separate funding. Chemical grouting of a leaking storm line can cost $500 to $3,000. New grates cost $500 or more.

Project Evaluation & Analysis

The only alternative is to not fund this project, and delay minor repairs until the funding is approved by the Council. This can result in safety issues and other problems if there is a leakage issue. These repairs are sometimes of urgent nature and need immediate attention.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	22,000	0	0	0
2007-08	10,000	0	0	0
2008-09	10,000	0	0	0
2009-10	10,200	0	0	0
2010-11	10,404	0	0	0
2011-12	10,612	0	0	0
2012-13	10,824	0	0	0
2013-14	11,041	0	0	0
2014-15	11,262	0	0	0
2015-16	11,487	0	0	0
2016-17	11,717	0	0	0
2017-18	12,068	0	0	0
2018-19	12,430	0	0	0
2019-20	12,803	0	0	0
2020-21	13,187	0	0	0
2021-22	13,583	0	0	0
2022-23	13,990	0	0	0
2023-24	14,410	0	0	0
2024-25	14,842	0	0	0
2025-26	15,287	0	0	0
2026-27	15,746	0	0	0
20 Year Total	245,893	0	0	0
Grand Total	267,893	0	0	0

Project Information Sheet

Project: 805203 Sewer Development Costs (City Share)

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	1999-00	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Marvin Rose
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for Sewer Development Costs. The purpose of this project is to pay the City's pro-rata share for oversizing sanitary sewers constructed by private developers. The project is city-wide, and it provides funds to pay developers for installing a larger size sewer than what the developer would be obligated to provide. The sewer size needs to be upgraded in areas where future developments are anticipated. The Sunnyvale Municipal Code (SMC) requires reimbursement to developers for a portion of their increased costs.

Project Evaluation & Analysis

This work is required by the SMC.

Fiscal Impact

This project is funded from the Wastewater Management Fund. The cost of upgrading depends on the size of sewer needed. There are no additional operating costs involved because of the size upgrade. It will be cheaper to upsize initially rather than to redo the sewer at a future date.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	38,000	0	0	0
2007-08	20,000	0	0	0
2008-09	20,000	0	0	0
2009-10	20,400	0	0	0
2010-11	20,808	0	0	0
2011-12	21,224	0	0	0
2012-13	21,649	0	0	0
2013-14	22,082	0	0	0
2014-15	22,523	0	0	0
2015-16	22,974	0	0	0
2016-17	23,433	0	0	0
2017-18	24,136	0	0	0
2018-19	24,860	0	0	0
2019-20	25,606	0	0	0
2020-21	26,374	0	0	0
2021-22	27,165	0	0	0
2022-23	27,980	0	0	0
2023-24	28,820	0	0	0
2024-25	29,684	0	0	0
2025-26	30,575	0	0	0
2026-27	31,492	0	0	0
20 Year Total	491,785	0	0	0
Grand Total	529,785	0	0	0

Project Information Sheet

Project: 805253 Sewer Pipes, Manholes, and Laterals Emergency Replacement

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	1999-00	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project funds miscellaneous small sanitary sewer projects that may arise during the fiscal year. This is primarily for emergency or incidental situations. Typical work that might be completed include: repairs to 4 or 5 manholes, 250 feet of sewer, or repairs to 10 to 12 sewer laterals in the right-of-way that have failed.

This project is differentiated from separate manhole and sewer main replacement projects by its intent to respond to "emergency" needs that may come up during a year, whereas the replacement projects will be planned, designed, and involve sizeable contracts. This project will deal with small, unanticipated problems that require a quick response on a relatively small scale.

Project Evaluation & Analysis

The only alternative is to not fund this project and delay the needed repairs until funds are requested, and approved by the Council in each individual case. These repairs are of urgent nature most of the time, and delaying could mean serious safety issues and possible fines if sewer overflows develop. Delaying can also result sometimes in higher repair cost.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	2,257	0	1,324	0
2006-07	38,000	0	0	0
2007-08	20,000	0	0	0
2008-09	20,000	0	0	0
2009-10	20,400	0	0	0
2010-11	20,808	0	0	0
2011-12	21,224	0	0	0
2012-13	21,649	0	0	0
2013-14	22,082	0	0	0
2014-15	22,523	0	0	0
2015-16	22,974	0	0	0
2016-17	23,433	0	0	0
2017-18	24,136	0	0	0
2018-19	24,860	0	0	0
2019-20	25,606	0	0	0
2020-21	26,374	0	0	0
2021-22	27,165	0	0	0
2022-23	27,980	0	0	0
2023-24	28,820	0	0	0
2024-25	29,684	0	0	0
2025-26	30,575	0	0	0
2026-27	31,492	0	0	0
20 Year Total	491,785	0	0	0
Grand Total	532,042	0	1,324	0

Project Information Sheet

Project: 811701 Oxidation Pond Levee Improvements

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	1993-94	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2005-06	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project was developed to complete modifications necessary to maintain the functionality of the Water Pollution Control Plant's Biological Ponds, which are vital to process wastewater for the City of Sunnyvale. Modifications were based on a 1987 Pond study completed by EOA, Inc., and the project has incorporated a staged implementation of several improvements. Completed projects include the raising of the outer levee on Pond #1 and raising the West Main dyke on Pond #2.

The remaining funds will be used to complete plans and specifications to raise the inner levee and perform the evaluation of the transfer tubes. The two oxidation ponds are bounded by levees with inflow and outflow transfer tubes. The levees are founded on soft bay mud soils and must periodically be raised to maintain proper flood control elevations and provide safe roads for inspection or process monitoring. Also, the aging metal transfer tubes must be relined to maintain structural integrity and flow rates demanded by the treatment process. This evaluation will define the need to repair or replace the 18 transfer tubes along with the hydraulic effects of the proposed changes. The work includes the necessary surveying and mapping, geotechnical and civil engineering, permit assistance, engineering support along with cost estimates for raising the levee 1-2 feet and rehabilitating the transfer tubes.

This project has been completed.

Project Evaluation & Analysis

The project maintain compliance with discharge regulations during future operation of the treatment plant.

Fiscal Impact

See RTC # 04-341, Budget Modification #6.

Costs for 04/05 were increased to a revised budget of $780,000.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	1,545,320	0	1,307,220	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	1,545,320	0	1,307,220	0

Project Information Sheet

Project: 821112 Power Generation Facility Improvements

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	1999-00	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2002-03	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project was established to fund upgrades to our Power Generation Facility (PGF). The modifications to date have allowed us to export power to the grid and minimized the purchase of electrical power, providing cost savings. A series of modifications due to operations changes have successfully provided stability and reliability for these engines / generators.

Existing funds are slated to complete a laundry list of improvements, starting with filtration of the Land-Fill Gas (LFG) to extend preventative maintenance intervals, resulting in increased engine life. We are evaluating proposals for this work. Future improvements include performance optimization, cooling towers, and the addition of direct natural gas to supply LFG which is a declining resource.

These upgrades have been incorporated into the contract for Rehabilitation of Digesters and Replacement of Digester Lids, primarily funded through project # 824300, for which a construction contract has been awarded. The contract will be funded from this project, 821112, and 824300.

The specific improvement in the digester contract is a gas filter for gas coming from the digesters going to the power generation facility.

Project Evaluation & Analysis

This project provides for the installation of an improvement (gas filter) that will contribute to extending the life of the engines and reduce the frequency that preventative maintenance is required. Another alternative was identified – precombustion chambers for the engines, which were found to be more costly and less effective than simple filtration. This project was included with the other rehabilitation and piping work for the digesters because installation will be most-cost effective while that work is being completed.

Fiscal Impact

This project will be funded from the Sewer Revenues. Costs include labor, materials and contingencies. This project should help offset maintenance costs by reducing the frequency at which overhauls and oil changes are required. The useful life of these improvements is estimated at 20 years.

UPDATE AS OF 10/06/06 : C/O Funds from 05/06 in the amount of : $379,014 to FY 06/07.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	20,986	0	6,136	0
2006-07	379,014	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	400,000	0	6,136	0

Project Information Sheet

Project: 822561 Energy Use Audit-Hot Water Loop Replacement

Category:	Special	Type:	Wastewater	Department:	Public Works
Origination Year:	2001-02	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2004-05	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The Water Pollution Control Plant (WPCP) generates electric power from methane gas produced at the landfill and in the water and wastewater treatment process. A by-product of power generation is heat, which is transferred via a hot water loop to other areas of the WPCP to heat buildings and for other uses. The hot water loop is nearing the end of its useful life, with expensive replacement costs already incurred for just a small portion of the system. The high cost of replacement dictated exploring options other than just replacing with a similar system.

This project will provide a comprehensive evaluation of how heat is generated, utilized, and dissipated throughout the WPCP. It will determine whether it would be more cost-effective to replace the hot water loop in kind or to construct a different system for heat dissipation for the engines and heating of the buildings. The project will also include preliminary engineering design work which will yield detailed information regarding the scope and anticipated construction costs for the preferred alternative. This information will be used to develop a new construction project for the identified alternative which will be submitted as part of the next CIP budget cycle.

The useful life of the project will depend on which alternative is selected and would likely be either 15 years or 30 years.

The evaluation is currently underway in a contract executed in January 06, and it is expected to be completed in late 2006.

Project Evaluation & Analysis

This project is to evaluate alternatives for utilizing and dissipating heat at the plant, which would include replacing the heat loop in-kind or installing cooling devices such as cooling towers. It is not clear which alternative will be the most cost-effective and thus this evaluation has been commissioned. Repair of the heat loop has proven costly and not having a cooling system would mean shutting down the engine generators and flaring landfill gas purchasing the plant energy needs from PG&E, and expensive and non-environmental solution.

Fiscal Impact

The project is funded from sewer revenues. This project covers the cost of analysis and preliminary engineering design work. A subsequent project will need to be submitted for final design and construction of the selected alternative. Operating costs for the most advantageous alternative are not known at this time, but are unlikely to be greater than current operating costs for the cooling system, as the potential exists to offset other energy needs through the use of waste heat.

UPDATE AS OF 10/06/06: C/O from FY 05/06 to FY 06/07 in the amount of : $354,263.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	20,737	0	3,693	0
2006-07	354,263	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	375,000	0	3,693	0

Project Information Sheet

Project: 822752 Storm Pump Station Number 1 Rehabilitation

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2001-02	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

Sunnyvale operates two storm pump stations to pump accumulated storm water into tributaries to the San Francisco Bay. These are required due to areas of the City that are close to sea level and could suffer flooding, particularly during large storms and exceptionally high tides. Storm Pump Station No. 1 is located between the Water Pollution Control Plant (WPCP) and the SMaRT® Station. The center and north end of Sunnyvale drains to this pump station. The facility consists of a structure with two large natural-gas powered pumps, one small electric pump, three discharge pipes and a fenced yard. The two gas driven pumps and the engines need to be replaced to keep the station functional. In addition to this, the roof of the facility also needed to be replaced. The roof replacement has been scheduled for FY 2006/2007 along with the pump replacement to provide easy access for the removal and placement of new pumps. The new roof will be modified to provide easy access for pump repairs in future.

During this design process staff has realized that the electrical feed for the pump station coming from the WPCP is directly buried in the levees without a protective conduit. Because of this, there have been problems faced in the past with this feed line. Replacement of this feed line is proposed to be done in FY 2009/2010. (Estimated cost: $150,000).

Two additional items of work need to be done and are included in the proposed budget for FY 2009/2010. The first is dredging of the ponds where water backs up during storms and removal of silt in the holding area. (Estimated cost: $145,000). The second is relining of the discharge pipes which are deteriorating. (Estimated cost: $85,000).

This project differs from project 825381 (Pump Station Expansion) in that it is not dependent on Santa Clara Valley Water District (SCVWD) improvement of the Bay levee. The project stands alone, and depends only on City's timetable and decision to proceed.

Project Evaluation & Analysis

If the project is not built, we risk complete failure of the pump station since the pumps would be very limited in the discharging of storm water. If that happens, flooding would occur in the north and possibly central areas of Sunnyvale. The only alternative at that point would be to rent pumps to discharge the storm water into the bay. It is prudent to do timely repairs to avoid such costs.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	8,751	899	0	0
2006-07	517,148	0	0	0
2007-08	45,000	0	0	0
2008-09	0	0	0	0
2009-10	387,600	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	432,600	0	0	0
Grand Total	958,499	899	0	0

Project Information Sheet

Project: 822762 Storm Pump Station Number 2 Rehabilitation

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2001-02	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funds for the rehabilitation of Storm Pump Station #2. Sunnyvale operates two storm pump stations to pump accumulated storm water to the San Francisco Bay. They are required due to areas of the City close to sea level that could suffer flooding, particularly during large storms and exceptionally high tides. Storm Pump Station #2 is located at the east end of Baylands Park. The facility consists of a structure with 6 pumps (1 small electric and 5 natural gas-powered engines), a pond surrounded by a levee, and an access road to get to the facility. Several capital aspects of the facility must be periodically funded.

The engineering study was performed in FY 2005/2006 and a construction bid went out to correct erosion problems, bring the levee back to a uniform slope and provide vehicular access along the top of the levee. The bid was awarded for $109,386 plus a contingency of $16,408 for a total budget amount of $125,794. The bid amount was higher than originally projected because the engineering analysis identified the need to repair the entire levee instead of just some areas. Construction work, originally expected to be spread over three years, has been set up to be done at one time for cost savings in FY 2006/2007.

Future funding of this project will include replacement of pumps and engines (3 in FY 2008/2009 and 1 each in 2009/2010, 2010/2011 and 2011/2012) estimated at $60K each; electrical update for motor controls at the time of engine replacement ($20K each); and sectional channel dredging from FY 2012/2013 through 2014/2015. Dredging should be budgeted every 10 years after that, and the proposed budget reflects this.

Project Evaluation & Analysis

This project is necessary to maintain existing essential infrastructure of the Wastewater Utility, and therefore must be done.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	50,969	0	39,720	0
2006-07	138,751	0	0	0
2007-08	0	0	0	0
2008-09	240,000	0	0	0
2009-10	81,600	0	0	0
2010-11	83,232	0	0	0
2011-12	84,896	0	0	0
2012-13	54,122	0	0	0
2013-14	55,204	0	0	0
2014-15	56,308	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	69,951	0	0	0
2023-24	72,050	0	0	0
2024-25	74,211	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	871,574	0	0	0
Grand Total	1,061,294	0	39,720	0

Project Information Sheet

Project: 822792 Rehabilitation of Manholes - Lawrence Trunk Sewer

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2001-02	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2004-05	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The Lawrence Trunk Sewer is one of 5 major sewer trunk lines in the City. Approximately 60 sanitary sewer manholes have suffered significant deterioration and require rehabilitation. Toxic gases that are naturally produced in sanitary sewer systems are corrosive to concrete. Current standards require epoxy, or some other coating, to protect the concrete from this type of corrosion. The Lawrence line is more than 50 years old and carries a large flow from a large collection area. The longer the flow is in the pipes, the stronger the gases become and the more corrosive their effects.

This project provides all work necessary to rehabilitate the existing manholes. The interiors will be coated with a material to replace the lost concrete for structural strength and provide a protective coat that will slow or prevent the recurrence of corrosion. Loose steel ladder rungs, no longer used to enter manholes, will be removed, joints to connecting pipes will be repaired, and damaged lids will be replaced as necessary.

The construction of this project is in progress, and staff requested partial carryover from FY 05/06 to finish it.

Project Evaluation & Analysis

The contract is in place and construction has already started; there are no good alternatives to finishing the project.

Fiscal Impact

The project is funded by the utility fund. Approximately $300K of the budgeted amount will be returned to the fund because during bidding process the requirement to do bypassing was changed and left open, which resulted in lower bid.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	48,122	0	20,091	0
2006-07	500,000	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	548,122	0	20,091	0

Project Information Sheet

Project: 823221 Wastewater Data/Process/Service Assessment Studies

Category:	Special	Type:	Wastewater	Department:	Public Works
Origination Year:	2001-02	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	Ongoing	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	none
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project was initiated to fund various wastewater studies at the Water Pollution Control Plant (WPCP) over a ten-year period. Remaining funds in this project are being used for the final work on the plant Asset Condition Assessment being performed by Carollo Engineers. This study evaluates the condition of all of the major plant assets (excluding the digesters, handled under a different project, provides a database of the assets, their condition, their remaining useful life, and consequences and risks of failure.

The remainder of this project was funded under Project #823141.

Project Evaluation & Analysis

This project provided a thorough evaluation of plant assets so that capital planning can de developed prioritized and based on teh greatest need. The database, along with condition assessments every five years, will allow capital planning to continue on a systemmatic basis with analysis of relative risk.

Fiscal Impact

Funded from sewer rates, will provide information to best allow determination of most cost-effective long-term maintenance of plant assets.

C/O from FY 05/06 to FY 06/07 in the amount of : $90,510.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	290,765	0	91,823	0
2006-07	90,510	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	381,275	0	91,823	0

Project Information Sheet

Project: 824301 Rehabilitation of Digesters and Replacement of Digester Lids

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2002-03	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2010-11	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funds for the design and construction of four replacement digester covers and peripheral equipment at the Water Pollution Control Plant (WPCP). Digesters at the Water Pollution Control Plant are used to degrade solids removed from the wastewater. The structural integrity of the digester lids must be maintained to prevent releases of potentially hazardous methane that could pose the potential for explosion and/or result in Bay Area Air Quality Management District (BAAQMD) violations.

Digesters #1 and 2 were built in 1955, #3 in 1961, and #4 in 1969. The digester lids have deteriorated, and methane gas has been found between the structural layers of the lids. Spot repairs have been completed and have provided some addition to the useful life, but are no longer adequate. To prevent failure, the lids need to be replaced.

Replacement is estimated to extend the life of the digesters by 30 years. Digester #3 is being rehabilitated first. Construction began October 2006 and work under this first contract is expected to be completed late 2007. Digester #4 will be designed in FY 2006/2007 and scheduled for construction after the completion of Digester #3. Digester #1 and #2 will be rehabilitated in sequence following the completion of each previous digester. Engineering services are the highest for design on the first digester and decline with each of the following digesters since the plans and specs will need to be modified slightly for each one but not completely redone.

Construction costs for each digester are split roughly evenly between two years. These costs are based on the bid numbers received in Spring 2006 for the first digester.

Project Evaluation & Analysis

The first phase of this project involved an engineering analysis to evaluate alternatives including fixed covers (lids) or floating covers, and gas storage within digesters or in a separate structure. The selected alternative of fixed covers was determined to be most cost-effective.

Postponing the work would reduce digestion capacity which would mean reducing methane production, which would then need to be replaced with electrical and / or natural gas purchase. Postponing the work would also mean reducing or eliminating required redundancy at the plant.

Fiscal Impact

The project will be funded from Wastewater Revenues. Cost for this project is now established based on the executed contract and with contingency funding, per standard Public Works practice. Operating costs are not anticipated to vary significantly from historical operating costs. Useful life of the renovated digester is expected to be 30 years.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	382,503	0	306,486	0
2006-07	2,814,849	0	0	0
2007-08	1,451,683	0	0	0
2008-09	2,739,683	0	0	0
2009-10	3,216,835	0	0	0
2010-11	1,366,836	0	0	0
2011-12	1,379,570	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	10,154,607	0	0	0
Grand Total	13,351,959	0	306,486	0

Project Information Sheet

Project: 824341 Wastewater Cost of Service Study

Category:	Special	Type:	Wastewater	Department:	Finance
Origination Year:	2002-03	Fund:	465 Wastewater Management Fund	Project Manager:	Tim Kirby
Planned Completion Year :	Ongoing	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	none
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for a cost of service study for the Wastewater Management Fund. Every five years, the Utilities Division in the Department of Finance performs a cost of service study on the wastewater system to reallocate the costs of the City's wastewater services among the various customer classes, based on their use of each service. Staff works with a consultant to develop a cost of service model or update an existing model with current data. The study generates a cost of service for each customer class and recommends adjustments to the rate structure to ensure costs are recovered on an equitable basis from the different customer classes. The most recent study was completed in FY 2006/2007.

Project Evaluation & Analysis

Cost of service studies are important to perform on a regular basis for two reasons. First, it is important that utility rates reflect the cost of providing service. This is critical to make sure that the revenues generated through rates are sufficient to cover the cost of providing service. Second, utility rates should be equitable across customer classes. As the makeup of customer classes changes over time, it is important to re-adjust rates to insure that different customer classes are paying their fair share of costs.

Doing these projects on a regular basis simplifies the process and holds down cost as the makeup of customers doesn't tend to change significantly with in five years, but changes shift enough to warrant review.

Fiscal Impact

The project works to stabilize the City's Wastewater Management Fund through insuring that full cost recovery is achieved by the wastewater rates.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	25,340	0	4,095	0
2006-07	17,100	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	49,939	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	55,137	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	63,298	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	73,380	0	0	0
2026-27	0	0	0	0
20 Year Total	241,754	0	0	0
Grand Total	284,194	0	4,095	0

Project Information Sheet

Project: 824771 Primary Sedimentation Basin Renovation

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2004-05	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2013-14	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Chuck Neumayer
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides funding for the Phase 1 Renovation of the Primary Sedimentation Basin at the Water Pollution Control Plant (WPCP). Primary treatment provides the removal of solids and floating material from the wastewater stream. The ten primary sedimentation basins are reinforced concrete structures with process piping, mechanical drives and motors, and associated instrumentation. The oldest of the primary tanks were part of the original plant built in 1955. The concrete in these tanks are falling off in large chunks, and exposing the reinforced steel inside the structures. Once the reinforced steel is exposed to the atmosphere, it corrodes at a fairly rapid rate, and this then begins to threaten the structural integrity of the basin.

The primary tanks were built before the current, more stringent seismic requirements were put in place, so some seismic retrofit will likely be required. In addition, the mechanical components of the primary tanks that remove the solids from the tanks have reached the end of their useful life. This project will provide engineering review and evaluation of alternatives, seismic evaluation, and the development of plans and specifications for repair or replacement and construction of the recommended option. Funding for years subsequent to FY 2008/2009 may need to be adjusted based on the results of the engineering study and design. Design fees are estimated at a higher than normal percentage of the total project costs because design of repair/rehab/replacement work has proven to be more costly than design of new installations.

Project Evaluation & Analysis

Replacement is needed to restore structural integrity to the basins to eliminate safety and public health hazards and to provide for effective treatment as required by the plant National Pollutant Discharge Elimination (NPDES) permit. The project was identified as a top ten priority project in the Asset Condition Assessment completed in 2006 for the Water Pollution Control Plant.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	1,250,000	0	0	0
2008-09	1,250,000	0	0	0
2009-10	2,122,416	0	0	0
2010-11	1,623,648	0	0	0
2011-12	1,656,121	0	0	0
2012-13	1,689,244	0	0	0
2013-14	1,723,029	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	11,314,458	0	0	0
Grand Total	11,314,458	0	0	0

Project Information Sheet

Project: 825101 Solids Handling Safety and Efficiency Improvements - Phase I

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2003-04	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2013-14	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Joanna De Sa
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides for construction of improvements to increase the safety and capacity of the solids drying facility. Over time, it is anticipated that algae fed to the digesters will increase, increasing the amount of solids from the digesters. Existing facilities are essentially at capacity, and require solids handling that is neither as efficient or as safe as it could be.

Project Evaluation & Analysis

If results of the Strategic Infrastructure Plan study indicate that current methods of sludge drying are the most cost-effective, then the facilities used will require some remodel to accommodate greater throughput and to improve safety and efficiency. This project will provide an evaluation of how best to do that.

Fiscal Impact

This project will be funded from sewer revenues. Operating costs may be positively affected by the ability to produce more methane from greater algae processing in the digesters, which then requires drying. Increased methane will help to offset declining landfill gas supplies and thus minimize the need for energy purchases.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	250,000	0	0	0
2013-14	800,000	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,050,000	0	0	0
Grand Total	1,050,000	0	0	0

Project Information Sheet

Project: 825111 Tertiary Plant Tank Drainage System Modifications - Phase I

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2003-04	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2005-06	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Joanna De Sa
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The tertiary plant tank drainage system at the Water Pollution Control Plant (WPCP) is used to drain chlorine contact tanks, fixed growth reactor tanks and air floatation tanks should any of these tanks need to be shut down for maintenance. The original drainage structure and pump station were built in 1975. The rate of drainage has noticeably slowed during the last couple of years, and it appears that some of the drainage piping has collapsed. The inability to drain these tanks quickly and efficiently for repairs compromises the City's ability to meet all NPDES discharge requirements because tanks would be unavailable to provide treatment. In addition, since the production of recycled water has become a regular component of operations, the inability to quickly accomplish repairs also compromises the reliability of recycled water deliveries.

Phase I encompasses both a study and the subsequent engineering design work. The study portion would evaluate and make recommendations for repair, replacement or modifications to the existing collection/drainage system and pump station. The engineering work would include development of plans and bid specifications, including preparing a detailed cost estimate.

Phase II will be for the actual construction and will be submitted in a subsequent project cycle for construction funding. The scope and estimated costs for Phase II will be generated as a work product of this Phase I project.

Initial exploration work for this project is scheduled to begin in October during a window of opportunity between seasonal ammonia limits and the rainy season. Once this work is completed, an RFP would be issued for the Phase I study and engineering design work.

Project Evaluation & Analysis

Phase I of this project will address alternatives for repair / rehabilitation, based on conditions found and engineering alternatives available to accomplish same. Justification for the project is to fix an observed problem that if not corrected, could result in violations and fines, and possibly regulatory mandates for repair. Construction costs continue to rise steeply so postponing the project would not be cost effective.

Fiscal Impact

This project will be funded from Sewer Revenues. Operating costs will not be impacted significantly – some decrease may be observed due to reduced pumping costs. The useful life of repairs is estimated to be 40-50 years.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	452	0	0	0
2006-07	349,548	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	350,000	0	0	0

Project Information Sheet

Project: 825141 Air Floatation Tanks Rehabilitation

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2003-04	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides funds to rehabilitate and provide corrosion protection for four Air Floatation Tanks at the Water Pollution Control Plant (WPCP) which are steel and concrete structures. Air floatation tanks are used to remove the algae that grows during secondary treatment in the oxidation ponds. Three of these structures were built in 1975 and the 4th one in 1982, and all are in need of significant rehabilitation. The maintenance on these structures is critical to maintain process and regulatory compliance. This project will allow staff to take each of the tanks out of service, one at a time, and perform the needed preventive maintenance. This project includes repair/replacement of the steel and mechanical portion of this structure, repair and/or replacement of the influent gates and coating of the concrete walls, extending their useful life for approximately 20 years. Cost analysis were based on an internal estimate and include $670,000 for construction for each tank. Declining amounts for each subsequent year for engineering services reflect knowledge gained as repairs proceed.

Project Evaluation & Analysis

This project is necessary to maintain existing essential infrastructure of the Water Utility, and therefore must be done.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	230,000	0	0	0
2008-09	1,340,000	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,570,000	0	0	0
Grand Total	1,570,000	0	0	0

Project Information Sheet

Project: 825171 Fixed Growth Reactor Rehabilitation

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2003-04	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2005-06	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides funding for the rehabilitation of three growth reactors at the Water Pollution Control Plant (WPCP). The fixed growth reactors provide for the biological removal of ammonia from the wastewater stream. Ammonia is toxic to fish and other aquatic life, making removal important prior to discharge. These structures have been in service for 27 years and are showing various signs of wear and deterioration that need to be addressed. The project is scheduled for design in FY 2014/2015. Construction of each reactor will be done sequentially beginning in FY 2015/2016.

Inspections have shown the structures themselves appear to be in relatively good condition. However, the towers have settled and need to be re-leveled to protect bearings and seals and to insure that the flow pattern through the units does not compromise treatment. Additionally, the media within the towers over which wastewater flows need replacement as it has deteriorated, creating areas where the wastewater ponds instead of flowing, also compromising treatment.

When these structures are taken out of service for this maintenance, a thorough evaluation of the structures and piping will be accomplished; and any deficiencies will be identified and corrected. The completion of this maintenance is expected to extend the life of the reactors another 20-25 years.

Project Evaluation & Analysis

All fixed growth reactors are needed during the summer months to reduce ammonia levels to allowable permit limits. There are no stand-by units for this process, so full capacity needs to be maintained in order to meet permit limits on ammonia. Loss of treatment capacity/capability could result in regulatory fines and/or mandated repairs.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	358,528	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	358,528	0	0	0
Grand Total	358,528	0	0	0

Project Information Sheet

Project: 825321 Replacement/Rehabilitation of Sanitary Manholes

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

The project provides funding for the replacement/rehabilitation of sanitary manholes. The sewer system infrastructure is on average 50 years old, with some parts considerably older. The system includes over 5,700 sewer manholes. This project provides funding to replace or rehabilitate manholes, depending on condition, at a rate of about 10 manholes/yr at an estimated cost of $7,500 per manhole.

Evaluation of manholes on Lawrence Expressway and Arques Avenue indicated a general structural deterioration of the concrete manholes, to the point where rehabilitation must be done to prevent collapse. It is reasonable to infer that other manholes in the City's system are also in poor condition, since no ongoing program to inspect and repair them has ever been conducted. This project, started in FY 2005/2006, will systematically repair or replace deficient manholes. Deteriorated manholes will be identified during flushing and video inspection operations.

The project may need to be considered for expansion in the future, depending upon what is identified in the early years. The project is expected to be ongoing into the foreseeable future. Work will have to be coordinated with any planned street improvements as the program moves forward.

Project Evaluation & Analysis

The only alternative to replace manholes in bad condition would be to leave them in place as they are, since there is no possible maintenance that is applicable.

If the manholes deteriorate to the point of collapse, they would constitute a hazard and would have to be replaced on an emergency basis, which would be considerably costlier than a scheduled replacement.

Fiscal Impact

Funds for this project were not used in FY 2005/2006 in expectation of having to cover part of the cost of Project 822791, Rehabilitation of Manholes - Lawrence Trunk Sewer. Since project requirements were modified, the bid came in under budget and the additional funds were not needed.

This project is funded from the Wastewater Management Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	75,000	0	0	0
2007-08	75,000	0	0	0
2008-09	75,000	0	0	0
2009-10	76,500	0	0	0
2010-11	78,030	0	0	0
2011-12	79,591	0	0	0
2012-13	81,182	0	0	0
2013-14	82,806	0	0	0
2014-15	84,462	0	0	0
2015-16	86,151	0	0	0
2016-17	87,874	0	0	0
2017-18	90,511	0	0	0
2018-19	93,226	0	0	0
2019-20	96,023	0	0	0
2020-21	98,903	0	0	0
2021-22	101,871	0	0	0
2022-23	104,927	0	0	0
2023-24	108,074	0	0	0
2024-25	111,317	0	0	0
2025-26	114,656	0	0	0
2026-27	118,096	0	0	0
20 Year Total	1,844,200	0	0	0
Grand Total	1,919,200	0	0	0

Project Information Sheet

Project: 825331 Replacement/Rehabilitation of Sewer Pipes

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for the replacement / rehabilitation of sewer pipes. The City has over 280 miles of sewer lines, in sizes from 6 inches to 36 inches in diameter, with a value estimated to be in excess of $200 million. Many of the lines are 50 years old, or older. Failures have been occurring, and deficiencies have been noted in several locations. This project will replace or rehabilitate sewer mains as they are identified as in need of replacement. Alternative technologies will be investigated as to the best application in each location. The City has used several methods in the past to replace deteriorated sewer lines, including full replacement, lining, and “bursting” and replacing.

The project listed includes replacement or rehabilitation of approximately 3,000 feet per year at a rounded cost of $150 per foot. In addition, an amount of $70,000 is included in each year for engineering design work for the replacement / rehabilitation to be completed the following year. For FY 2005/2006 only the $70,000 engineering cost is listed. Following that, the estimate is $520,000 per year (approximately one-quarter of one percent [0.25%] of the value of the entire collection system).

This project will rely upon the findings of the video inspection (Project 900182) to identify the best locations to replace or rehabilitate the sewer each year. It is also possible that inspection will identify the need to increase the rate of replacement of the sewer in some locations. The project would only replace/rehabilitate approximately 11 miles of the City’s 280 miles of sewer line over a 20 year period.

Project Evaluation & Analysis

The only alternative to replacement of sewer pipes in bad shape would be to repair them segment by segment, on an emergency basis, as they collapse.

If a pipe collapses it could produce an overflow that would be a health hazard and the City could be penalized for allowing it. Even without the very possible overflow, repairing segments of pipeline on an emergency basis will be much costlier than scheduled replacements.

Fiscal Impact

This project is funded from the Wastewater Management Fund. There is no impact on the operating budget.

Funds for this project were not used in FY 2005/2006 in expectation of having to cover part of the cost of Project 826080, Borregas Avenue Sewer Rehabilitation. Since project requirements were modified, the bid came in under budget and the additional funds were not needed.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	16,115	0	0	0
2006-07	102,000	0	0	0
2007-08	208,000	0	0	0
2008-09	318,362	0	0	0
2009-10	441,632	0	0	0
2010-11	574,342	0	0	0
2011-12	597,546	0	0	0
2012-13	621,687	0	0	0
2013-14	646,804	0	0	0
2014-15	672,934	0	0	0
2015-16	706,985	0	0	0
2016-17	742,758	0	0	0
2017-18	1,575,984	0	0	0
2018-19	1,671,961	0	0	0
2019-20	1,773,784	0	0	0
2020-21	1,881,807	0	0	0
2021-22	1,996,409	0	0	0
2022-23	2,117,991	0	0	0
2023-24	2,246,977	0	0	0
2024-25	2,383,817	0	0	0
2025-26	2,528,991	0	0	0
2026-27	2,683,007	0	0	0
20 Year Total	26,391,778	0	0	0
Grand Total	26,509,893	0	0	0

Project Information Sheet

Project: 825351 Replacement/Rehabilitation of Storm Drain Manholes

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for replacement / rehabilitation of storm drain manholes. The storm system infrastructure is on average 50 years old. This project replaces or rehabilitates storm water drain inlets and manholes, depending on conditions, at an average of five units/year, beginning in FY 2015/2016.

Budget was developed from an average cost of $3,000/each to rehabilitate a storm water manhole including traffic control, confined space entry procedures, cleaning and preparation of vertical surfaces, structural modification if needed, adjustment of cones and covers, and pavement restoration. Also included would be any engineering and administrative costs. Five manholes per year would cost $15,000. This project would start in FY 2015/16 and continue as necessary. Storm catch basins and manholes are not exposed to the corrosive atmosphere of sanitary sewers, therefore the estimated cost is less, the number required is fewer, and the start date is later.

Project Evaluation & Analysis

Even though the storm manholes are not exposed to a corrosive atmosphere as sewer manholes are, nonetheless they are exposed to the elements and to vehicular weight and wear.

The alternative of not funding the project or delaying it further into the future might produce sudden structural failures, which would allow foreign objects to get into the storm water going to the bay or present a hazard to the public.

Fiscal Impact

This project is funded from the Wastewater Management Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	17,230	0	0	0
2016-17	17,575	0	0	0
2017-18	18,102	0	0	0
2018-19	18,645	0	0	0
2019-20	19,205	0	0	0
2020-21	19,781	0	0	0
2021-22	20,374	0	0	0
2022-23	20,985	0	0	0
2023-24	21,615	0	0	0
2024-25	22,263	0	0	0
2025-26	22,931	0	0	0
2026-27	23,619	0	0	0
20 Year Total	242,325	0	0	0
Grand Total	242,325	0	0	0

Project Information Sheet

Project: 825361 Replacement/Rehabilitation of Storm Drain Pipes

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for replacement / rehabilitation of storm drain pipes. The storm system infrastructure is, on average, 50 years old. This project will replace or rehabilitate storm water pipes, depending on condition, at a rate of 800 lf/yr at $85/foot, beginning in FY 2016/2017, after results from the first year of video inspections of the storm system are available. Storm systems are in general not subjected to the same conditions as sewer systems, and can be expected to last longer.

Project Evaluation & Analysis

The other alternatives to the project are to either not fund it or to delay funding to later years. If funding is not provided or delayed for too long, however, breaks in the system due to aging might develop that could cause flooding. Emergency repairs would then be necessary, which are usually more expensive than scheduled replacements.

Fiscal Impact

This project is funded from the Wastewater Management Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	126,787	0	0	0
2017-18	130,591	0	0	0
2018-19	134,509	0	0	0
2019-20	138,544	0	0	0
2020-21	142,700	0	0	0
2021-22	146,981	0	0	0
2022-23	151,391	0	0	0
2023-24	155,932	0	0	0
2024-25	160,610	0	0	0
2025-26	165,428	0	0	0
2026-27	170,391	0	0	0
20 Year Total	1,623,864	0	0	0
Grand Total	1,623,864	0	0	0

Project Information Sheet

Project: 825371 Video Inspection and Evaluation of Storm Drain System

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for video inspection and evaluation of the storm drain system. The storm water system infrastructure, consisting of about 327 miles of storm drains, is on average 50 years old. This project video-inspects and assesses crucial elements of the storm water system in order to evaluate conditions and determine replacement needs, at an average of 8 miles/year. Therefore, this work is budgeted to begin in FY 2015/2016.

Project Evaluation & Analysis

The other alternatives to the project are to either not fund it or to delay funding to later years. If funding is not provided or delayed for too long, however, staff will not have the information needed in order to prevent future breaks in the system that could cause flooding. If emergency repairs are needed, video inspection of the area would still have to be performed, at higher rates than regular inspection.

Fiscal Impact

This project is funded from the Wastewater Management Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	27,568	0	0	0
2016-17	28,120	0	0	0
2017-18	28,963	0	0	0
2018-19	29,832	0	0	0
2019-20	30,727	0	0	0
2020-21	31,649	0	0	0
2021-22	32,599	0	0	0
2022-23	33,577	0	0	0
2023-24	34,584	0	0	0
2024-25	35,621	0	0	0
2025-26	36,690	0	0	0
2026-27	37,791	0	0	0
20 Year Total	387,721	0	0	0
Grand Total	387,721	0	0	0

Project Information Sheet

Project: 825381 Storm Pump Station #1 Expansion

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2014-15	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides funding for Storm Pump Station #1 Expansion. Sunnyvale operates two storm pump stations to pump accumulated storm water into the San Francisco Bay. These are required for areas close to sea level that could suffer flooding during large storms and high tides. Storm Pump Station #1 is located between the Water Pollution Control Plant (WPCP) and the SMaRT® Station. The facility consists of a structure with two natural-gas powered pumps, one small electric pump, three discharge pipes and a fenced yard. This is the second of two projects proposed for this location. This project differs from project 822752 (Pump Station Rehabilitation) in that it is completely dependent on Santa Clara Valley Water District's (SCVWD) improvement of the Bay levee. The project will not start unless and until the District has finished the levee improvements.

Work in this project consists of two phases:(1) dredging the holding area, and (2) expanding the building and adjacent site modifications. The holding area has a small portion extending south, and a much larger basin extending to the east. Due to the nature of the basin (wetlandish), constant water flow through the storm system, power lines in the center, and overall environment issues, this item is projected to cost $1,900,000 to build. The project budget consists of environmental permitting (approximately $100,000 in FY 2012/2013), engineering design (approximately $150,000 in FY 2013/2014), and dredging (approximately $1,000,000 over a two year period).

The remaining budget ($350,000) is for a new building to replace the existing one, which is under-designed for 100-year floods and does not have emergency power. The project includes new pumps, discharge piping, generator, and related road work. Building improvements are not proposed until after the SCVWD makes improvements to the Bay levee under its jurisdiction and completes raising the main levee to the 100-year flood plain elevation.

Project Evaluation & Analysis

The only other alternative is to delay funding of the project and needed repairs until funds are approved by Council. If funding is delayed for too long, however, this pump station would not be able to accommodate storm water during a heavy storm or prolonged heavy-rain season. This project is a continuation of the Pump Station 1 rehabilitation, but the work as described in the Statement of Need cannot be done until the SCVWD completes raising the main levee to the 100 year flood plain elevation, expected to take place after 2013.

Fiscal Impact

This project is funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	108,243	0	0	0
2013-14	717,652	0	0	0
2014-15	957,238	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,783,133	0	0	0
Grand Total	1,783,133	0	0	0

Project Information Sheet

Project: 825521 Pond Sediment Removal

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2005-06	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2020-21	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The project provides funding for sediment removal from oxidation ponds at the Water Pollution Control Plant (WPCP). The oxidation ponds provide secondary treatment using natural action of sun and wind to facilitate the growth of algae, which takes up dissolved waste from the wastewater. No solids have been removed from the ponds since inception of secondary treatment in the late 1960's. The current accumulation of solids is estimated at 35% to 45% of the pond volume. A pilot study was recently completed to assess a removal process. Costs for pond sediment removal were originally estimated at $25- $30 million, but have now been revised, based on the pilot study, to approximately $14 million. The unit cost to remove accumulated pond solids is estimated, from the pilot study, to be $540 per dry ton, with a goal for removal of 26,000 tons. This unit cost is based on the work being accomplished under one contract.

Work to remove solids should be initiated as soon as possible to mitigate risks such as exceedence of ammonia limits.

Design of the project is underway in FY 2006/2007. This project is phased to be completed in bi-annual contracts incorporating funding from two budget years. In order to meet discharge requirements the City is required to provide secondary treatment.

Project Evaluation & Analysis

Alternative solutions have been evaluated as part of the engineering work completed to date. Alternatives included purchasing the necessary equipment and accomplishing the work in-house vs. contracting the work out, as well as off-site disposal vs. disposal at the biosolids monofill at the Sunnyvale Landfill. Contracting out and disposal are the selected alternatives based on lowest cost. Financial justification for the project is avoidance of violations and fines and construction costs that often escalate faster than the general rate of inflation. Postponing this project poses the definite risk of increased costs and potential risks of violations (air and water quality) and resulting fines.

Fiscal Impact

This project will be funded from Sewer Revenues. Cost estimates are based on costs from the pilot study and subsequent evaluation of alternatives, and include labor, materials and contingencies. Operating costs will not change based on completion of the project. It is anticipated that completion of the project will result in no further need for removal.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	951,000	0	0	0
2007-08	300,000	0	0	0
2008-09	651,000	0	0	0
2009-10	664,020	0	0	0
2010-11	677,300	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	2,292,320	0	0	0
Grand Total	3,243,320	0	0	0

Project Information Sheet

Project: 825751 Sewer Lift Stations Rebuild

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2004-05	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2014-15	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The City currently operates five sewer lift stations, which use electric motors to ensure proper flow of sewage to the Water Pollution Control Plant (WPCP). Four of the five lift stations are in great need of repair (Kifer lift station was recently restored). This project overhauls pumps and rehabilitates wet wells, traffic covers, and electrical panels. Rebuilding of the lift stations will take place over a period of years in order of necessity.

Design for each of the stations will be completed the year prior to construction. Design for the Arques lift station ($50,000) is scheduled for FY 2010/2011, with construction ($200,000) to be done in FY 2011/2012. Design for Sunken Gardens station ($45,000) is set for FY 2011/2012, with construction ($185,000) occurring in FY 2012/2013. Design for Baylands station ($50,000) is scheduled for FY 2012/2013, and construction ($200,000) for FY 2013/2014. The work will finish with Lawrence lift station, which will be designed ($50,000) in FY 2013/2014 and constructed ($200,000) in FY 2014/2015.

Project Evaluation & Analysis

Repair and replacement of equipment will reduce the need for emergency repairs and improve the reliability of the stations. The project will thus preserve the City's investment in its infrastructure and prevent problems that would be inconvenient, costly, and unsanitary.

The only alternatives are to not fund this project or delay it. This could lead to failure of the sewer stations and to expensive emergency repairs, for which funding would have to be obtained. Public health could be an issue if overflows occur, and fines might be levied against the City.

Fiscal Impact

This project is funded by the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	52,020	0	0	0
2011-12	259,996	0	0	0
2012-13	254,372	0	0	0
2013-14	276,020	0	0	0
2014-15	225,232	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,067,640	0	0	0
Grand Total	1,067,640	0	0	0

Project Information Sheet

Project: 825961 SCVURPPP Contracting and Fiscal Agent

Category:	Special	Type:	Wastewater	Department:	Finance
Origination Year:	2004-05	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	Ongoing	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Tim Kirby

Funding Sources: Santa Clara Valley Urban Runoff Pollution Prevention Program cost reimbursement

Project Description/Scope/Purpose

The City of Sunnyvale is one of 15 members of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). SCVURPPP was formed to implement the National Pollution Discharge Elimination Permit (NPDES) issued to the cities, county, and Santa Clara Valley Water District who discharge storm water to the San Francisco Bay. These 15 agencies have signed a Memorandum of Agreement (MOA) and pay annual assessments to cover the cost of programmatic activities related to implementing the NPDES Permit.

The Memorandum of Agreement provides for the selection of one of the members as the Program's Contracting and Fiscal Agent. The City of Sunnyvale has been selected as the program's Contracting and Fiscal Agent. The Contracting and Fiscal Agent provides billing and payment services for SCVURPPP, and acts as the awarding authority for any contracts that the agency wishes to enter into. This project is fully funded by SCVURPPP Assessments. The project budget includes the SCVURPPP Contracting and Fiscal Agent In Lieu fee which is equal to 13% of total operating expenses.

Project Evaluation & Analysis

The City of Sunnyvale is providing billing and payment services for SCVURPPP, and acting as the awarding authority for any contracts that the agency wishes to enter into.

Fiscal Impact

Total costs of the project are covered by assessments to the SCVURPPP members.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	15,795	0	0	0
2006-07	48,048	0	0	0
2007-08	48,043	48,043	0	0
2008-09	48,588	48,588	0	0
2009-10	49,559	49,559	0	0
2010-11	50,550	50,550	0	0
2011-12	51,562	51,562	0	0
2012-13	52,593	52,593	0	0
2013-14	53,645	53,645	0	0
2014-15	54,718	54,718	0	0
2015-16	55,812	55,812	0	0
2016-17	56,928	56,928	0	0
2017-18	58,637	58,637	0	0
2018-19	60,396	60,396	0	0
2019-20	62,206	62,206	0	0
2020-21	64,073	64,073	0	0
2021-22	65,996	65,996	0	0
2022-23	67,976	67,976	0	0
2023-24	70,014	70,014	0	0
2024-25	72,115	72,115	0	0
2025-26	74,279	74,279	0	0
2026-27	76,507	76,507	0	0
20 Year Total	1,194,197	1,194,197	0	0
Grand Total	1,258,040	1,194,197	0	0

Project Information Sheet

Project: 826450 WPCP Total Asset Management System Implementation

Category:	Special	Type:	Wastewater	Department:	Public Works
Origination Year:	2006-07	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2006-07	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Dan Hammons

Funding Sources: Wastewater Management Fund Rate Stabilization Reserve

Project Description/Scope/Purpose

In 2002, the WPCP began implementation of a Total Asset Management approach to plant maintenance, operation and capital planning. The intent of Total Asset management is to optimize the City's stewardship of Plant assets, which have an estimated replacement value of $300-$350 million. The assistance of a consultant knowledgeable in asset management and computerized maintenance management systems will be secured to further the Total Asset Management program, specifically to increase the functionality of Maximo. The following tasks will be performed as part of this project: Equipment Inventory Audit & Equipment Tagging; Equipment Condition Data Collection; Revise Planned Maintenance Program, Converting to Predictive Program and Implement Failure Analysis; Assist Staff in the Implementation of Mobile Data Devices; Additional MAXIMO Improvements, as Required; Best Practices and Key Performance Indicators.

Project Evaluation & Analysis

This project will provide for enhanced use of existing maintenance management software tool (Maximo), more steps in implementation of total asset management for the plant, with an accompanying (but unquantified) reduction in maintenance costs for plant assets as unplanned failures are eliminated or reduced over time.

Fiscal Impact

This project is funded by the Wastewater Management Fund Rate Stabilization Reserve.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	109,750	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	109,750	0	0	0

Project Information Sheet

Project: 826500 Borregas Avenue Sewer Rehabilitation - Wastewater Fund

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2006-07	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2006-07	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Wastewater Management Rate Stabilization Reserve

Project Description/Scope/Purpose

This project provided funding to slip-line 4,445 LF of 27"-diameter sanitary sewer trunk line, and to rebuild 12 manholes. Slip-lining, a process that relines the pipe with a resin-type material, is much more cost-effective (1/3 to 1/2 the cost) than complete replacement of the pipeline, which has been in service for approximately 50 years. Repairs were being made on an emergency basis and the line needed complete rehabilitation, or it would come to the point where replacement would be required. This will improve sewer flow and stop degradation of the pipe in this segment, which is one of the three trunk lines to the Water Pollution Control Plant. This project was eligible for CDBG funding, and funds covered of engineering design, construction, and project administration costs.

Construction of the project is finished, though final payment might not have been processed yet, including a pending change order. Staff requested $80,000 carryover from FY 05/06 to cover all unpaid obligations for the in-situ form relining contract, plus an additional $110,000 to rehabilitate 19 manholes in Borregas on a separate contract basis.

Project Evaluation & Analysis

The alternative would be to leave the manholes on site until they fail, and then request funding to replace them on an emergency basis. Prices for manhole rehabilitation on an emergency situation tend to be higher than regular work.

Fiscal Impact

This project was funded by CDBG and Wastewater Utility funds. The requested funding for manhole rehabilitation would come from the utility fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	109,259	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	109,259	0	0	0

Project Information Sheet

Project: 826970 Gibraltar/North Borregas Avenue Sewer Replacement

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2011-12	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project provides funding for sewer replacement on Gibraltar/North Borregas Avenues. This project is for the replacement of 912 feet of 8" diameter sanitary sewer lines on Gibraltar/North Borregas Avenue with a 12" diameter line. This upgrade is needed to accommodate additional capacity required for build-out of the area and is also identified as a required mitigation in the Moffett Park Specific Plan. The useful life of the replaced sewer would be 40 years.

Project Evaluation & Analysis

The project is identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by Resolution 111-04.

Not upgrading the lines will result in sewer capacity problems once the developments in the area take place. The upgrades are also a required mitigation. The project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the Wastewater Management Fund.
The City would be reimbursed some of these upgrading costs by the future developments in the area. The line will be a replacement of existing sewer lines and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	31,671	0	0
2008-09	0	47,506	0	0
2009-10	0	0	0	0
2010-11	53,130	0	0	0
2011-12	151,800	47,042	0	0
2012-13	0	47,042	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	204,930	173,261	0	0
Grand Total	204,930	173,261	0	0

Project Information Sheet

Project: 826980 Crossman/Java Drive Sanitary Sewer Replacement

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2011-12	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project provides funding for Crossman/Java Drive Sanitary Sewer Replacement. This project is for the replacement of 2755 feet of 21" to 24" sanitary sewer lines on Crossman/Java. This upgrade is needed to accommodate additional capacity required for the build-out of the area and is also identified as a required mitigation in the Moffett Park Specific Plan. The useful life of the replaced sewer would be 40 years.

Project Evaluation & Analysis

The project is identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by resolution 111-04.

Not upgrading the lines will result in sewer capacity problems once the developments in the area take place. The upgrades are also a required mitigation. The project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the wastewater management fund. The city would be reimbursed some of these upgrading costs by the future developments in the area. The line will be a replacement of existing sewer and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	221,292	0	0
2008-09	0	331,938	0	0
2009-10	0	0	0	0
2010-11	371,236	0	0	0
2011-12	1,060,675	328,695	0	0
2012-13	0	328,695	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,431,911	1,210,620	0	0
Grand Total	1,431,911	1,210,620	0	0

Project Information Sheet

Project: 826990 Java/North Borregas Sewer Line Replacement

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2010-11	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Jim Craig
Funding Sources:	New Development				

Project Description/Scope/Purpose

This project provides funding for sewer line replacement on Java/North Borregas. This project is for the replacement of approximately 1,270 linear feet of existing 10" diameter sanitary sewer pipe on Java/North Borregas with 12" diameter sanitary sewer pipe. This upgrade is needed to accommodate additional capacity needed for the build-out of the area and is also identified as a required mitigation in the Moffett Park Specific Plan. The useful life of the replaced sewer would be 40 years.

Project Evaluation & Analysis

The project is identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by Resolution 111-04.

Not upgrading the lines will result in sewer capacity problems once the developments in the area take place. The upgrades are also a required mitigation. This project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the wastewater management fund. The City would be reimbursed some of these upgrading costs by the future developments in the area.

The project will be a replacement of existing lines and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	43,719	0	0
2008-09	0	65,579	0	0
2009-10	0	0	0	0
2010-11	73,343	0	0	0
2011-12	209,550	64,398	0	0
2012-13	0	64,398	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	282,893	238,094	0	0
Grand Total	282,893	238,094	0	0

Project Information Sheet

Project: 827000 Mathilda/First Street Sanitary Sewer Replacement

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2011-12	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project provides funding for sanitary sewer replacement on Mathilda/First Street. This project is for the replacement of approximately 2005 linear feet of existing 12" diameter sanitary sewer line on Mathilda/First Street with 18" diameter line. This upgrade is needed to accommodate additional capacity required for build out of the area and is identified as a required mitigation by the Moffett Park Specific Plan. The useful life of the replaced sewer would be 40 years.

Project Evaluation & Analysis

The project is identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by Resolution 111-04.

Not upgrading the line will result in sewer capacity problems once the developments in the area take place. The upgrades are also a required mitigation. The project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the wastewater management fund. The City would be reimbursed some of these upgrading costs by the future developments in the area.

The line will be a replacement of existing sanitary sewer line and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	92,028	0	0
2008-09	0	138,042	0	0
2009-10	0	0	0	0
2010-11	154,385	0	0	0
2011-12	441,100	136,693	0	0
2012-13	0	136,693	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	595,485	503,456	0	0
Grand Total	595,485	503,456	0	0

Project Information Sheet

Project: 827010 Water Pollution Control Plant Primary Roof Replacement

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	200 Wastewater Capital Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding to replace the four roofs of the primary building at the Water Pollution Control Plant (WPCP). The existing roofs are beginning to build up tar because of prior repairs, and gravel roofs are in need of replacement before they fail. Roofs at the WPCP typically have a useful life of 15 years. Staff estimates the current life of the existing roofs to be more than 20 years old.

Project Evaluation & Analysis

The Water Pollution Control Plant building houses extensive electronic and electrical equipment, primary sewage pump engines along with offices and conference rooms. Failure of the roof could cause damage to expensive and critical equipment. Maintenance of this roof is imperative to protect our investment.

Fiscal Impact

This project will be funded by the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	210,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	210,000	0	0	0
Grand Total	210,000	0	0	0

Project Information Sheet

Project: 827020 Emergency Bypass Pumping Plan Study

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Lorrie Gervin
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project will develop, cost, and evaluate alternatives and contingency plans for emergency operation of the primary effluent pipeline at the Water Pollution Control Plant (WPCP) The primary effluent line was the # 2 priority for replacement in the Asset Condition Assessment study completed for the WPCP in 2006. This pipeline carries flows from the primary tanks to the oxidation ponds, and is the only route available to transport incoming flows. If the pipeline breaks, it would spill partially treated flow to waters of the state which would likely result in significant fines and/or penalties due to permit violations, as well as negative environmental impacts to nearby San Francisco Bay receiving waters, and disruption of wastewater treatment service to the community at large. Such a break would require immediate, emergency repairs that would be costly because of the emergency nature of the situation. Permanent rehabilitation or replacement of the primary effluent pipeline will be addressed in a separate capital project.

Project Evaluation & Analysis

This project is designed to provide a contingency plan and nominal facilities to prevent excessive spills in the event of a break, and to provide the ability, ahead of time, to route flows by an alternate means, to the oxidation ponds.

Replacement of the primary effluent pipeline was reported to be the Number 2 priority of asset replacement at the WPCP. It has 0 years of remaining economic life and a condition rating of 5. A ranking of 5 on a scale defined in the International Infrastructure Management Manual means the asset is unserviceable having greater than 50% requiring repair. The existing pipeline was constructed in 1969. The line is considered to be highly vulnerable to failure due to its physical condition.

Fiscal Impact

The study will be funded from the Wastewater Management Fund from sewer revenues.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	250,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	250,000	0	0	0
Grand Total	250,000	0	0	0

Project Information Sheet

Project: 827030 WPCP Strategic Infrastructure Plan

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2008-09	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Lorrie Gervin
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project provides funding for a Master Facilities plan at the Water Pollution Control Plant (WPCP). The completed Asset Condition Assessment Report and the PW Staffing Study both recommended that a Master Facilities Plan be completed. The purpose of this Strategic Infrastructure Plan study is to evaluate treatment options for meeting the plant's discharge permit now and into the future (planning horizon of 20-30 years), comparing the cost of constructing new treatment technologies with repair and rehabilitation of existing facilities. This evaluation will allow the city to select the most cost-effective options for providing sustainable wastewater treatment that meets all regulatory requirements. The study will include evaluation of recycled water production, plant capacity needs, plant automation and control, energy production, and biosolids processing/drying. The study will result in a recommended schedule for CIP projects and a suggested funding strategy.

Project Evaluation & Analysis

Replacement cost of the plant is estimated at $350 million. Maintenance of this city asset to provide the critical service of wastewater treatment requires ongoing investment. Risks associated with deferral of needed repair/rehabilitation include the potential for violations with associated fines, regulatory intervention in which repairs and timelines are dictated by regulatory agencies. If failure occurs, repairs must be completed on an emergency basis, often without a competitive bid process. In recent years, construction cost escalation has been greater than interest rates.

With many components reaching 50 years of service and/or the end fo their useful life, it is critical at this time to determine the most cost-effective way to provide wastewater treatment on an ongoing basis. Many of the facilities are at or very near the end of their useful life and timely decisions relative to repair vs. replacement are needed to ensure that no interruption in treatment occurs.

Fiscal Impact

Maintenance of the city's wastewater treatment plant asset is necesary in order to provide the critical service of wastewater treatment. This study will provide for the determination of the most cost-effective options, and will enhance budget planning.

This project will identify the most cost-effective projects to maintain treatment. Project budgets will be brought back for consideration upon completion of the study.

This project is funded by the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	550,000	0	0	0
2008-09	300,000	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	850,000	0	0	0
Grand Total	850,000	0	0	0

Project Information Sheet

Project: 827040 WPCP Asset Condition Assessment

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	Ongoing	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Lorrie Gervin
Funding Sources:	Wastewater Revenues				

Project Description/Scope/Purpose

This project will provide for the multi-disciplinary (structural, civil, electrical, corrosion) engineering review of the Water Pollution Control Plant (WPCP) every five years. As part of long-range infrastructure planning for the WPCP, a periodic condition assessment of plant facilities is needed in order to prioritize repair/replacement projects and provide for a systematic approach to capital budget planning. The initial condition assessment was completed in FY 2005/2006.

The information will be used to define existing conditions and priorities as part of the WPCP Strategic Infrastructure Plan. An assessment should be completed every 5 years to track the condition and deterioration of assets so that repair / replacement projects can be timed appropriately and the various needs can be prioritized. This data will then be input to the plant's asset database for evaluation and comparison to be used in managing the WPCP infrastructure. The schedule and cost for these assessments will be reevaluated at the completion of the WPCP Strategic Infrastructure Plan and the first update to the asset condition assessment.

Project Evaluation & Analysis

Periodic assessment and comparison of actual condition of WPCP assets with agreed-upon service levels and predicted useful lives facilitates determination of least life-cycle costs for these assets. This information can then be used to provide for capital planning, to minimize the effect on sewer rates.

Fiscal Impact

This project is funded by the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	382,187	0	0	0
2026-27	0	0	0	0
20 Year Total	382,187	0	0	0
Grand Total	382,187	0	0	0

Project Information Sheet

Project: 827050 Sanitary Sewer Collection System Master Plan

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

This project provides funding for a master plan for the Sanitary Sewer system. The project is one of the next steps in the Long Range Infrastructure Plan. The project will assess the hydraulics, physical condition, and maintenance of the collection systems and will recommend improvements to provide adequate hydraulic capacity and improve the reliability of the collection system. It will include an analysis of the financial impacts of the recommendations and suggest a funding strategy.

The City provides Sanitary Sewer services to residents and businesses within the City. This study is needed to define the capital projects that 1) will be necessary to replace aging infrastructure and 2) to identify any capacity increasing projects that may be needed as a result of in-fill development. This type of plan is considered to be a Best Management Practice for ensuring that the wastewater collection system can continue to provide reliable service.

Funds in FY 2007/2008 will be used to prepare a model of the sanitary sewer system. The costs in FY 2008/2009 are for condition assessment, with funds in FY 2009/2010 to analyze and develop alternatives for capital projects and funding.

Project Evaluation & Analysis

This project is necessary to maintain existing essential infrastructure of the Wastewater Utility, and therefore must be done.

Fiscal Impact

It is estimated that this project will cost $500,000. However the information developed as a result of this study can allow the City to require developers to pay for capacity increases or for rehabilitation of existing sewers. This project is funded by the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	156,060	0	0	0
2011-12	212,242	0	0	0
2012-13	162,365	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	530,667	0	0	0
Grand Total	530,667	0	0	0

Project Information Sheet

Project: 827060 Sulfur Dioxide (SO2) Equipment Replacement

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Dan Hammons
Funding Sources:	Transfer from Sewer Equipment Sub-fund/ Wastewater Management Fund				

Project Description/Scope/Purpose

This project will replace the current equipment used to regulate the flow of sulfur dioxide into the treatment process as this equipment has reached the end of its useful life. Sulfur dioxide is used to neutralize the chlorine that is added to treated wastewater to disinfect it before discharge to the bay, thus rendering the chlorine harmless to aquatic organisms. Sulfur dioxide is an extremely aggressive chemical, requiring very specialized equipment for its handling. The project will also include modifications needed to meet new code requirements and safety related concerns. These modifications include designing the piping to allow the pressure vessels to be tested every 5 years, installing a flanged test section in the piping and installing prefilters. The project includes design and construction. Costs were estimated based on a recent project to replace similar equipment used for chlorine handling, except that automation of the chlorine feed and the sulfur dioxide feed were both already completed in that project.

Project Evaluation & Analysis

This is a critical piece of process equipment. Failure could have serious safety implications and severely cripple the plant's ability to meet regulatory requirements. There will need to be a temporary de-chlorination system in place as part of this project.

Fiscal Impact

Approximately $60,000 is available from the Sewer Equipment Replacement Fund for this equipment. Remaining project costs for installation will be funded from the Wastewater Management Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	290,000	0	60,000	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	290,000	0	60,000	0
Grand Total	290,000	0	60,000	0

Project Information Sheet

Project: 827070 Algae Digestability Study

Category:	Special	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Joanna De Sa
Funding Sources:	Sewer Revenues				

Project Description/Scope/Purpose

The purpose of this project is to significantly improve the digestability of algae generated in the oxidation ponds at the Water Pollution Control Plant (WPCP). This will allow accumulation of algae in the ponds to be minimized, thus avoiding expensive removal costs. In addition, the digesters will have improved methane gas production.

Algae is generated in large quantities in the oxidation ponds as part of the treatment process. In the past algae has been sent back to the ponds, where it partially breaks down but also accumulates at the bottom of the ponds. Another option is to route the algae to the digesters, where theory says it would generate additional methane. However, in practice this has not been an effective process.

This project will include bench-scale testing to better understand and hopefully optimize the ability to digest algae and produce methane from it. The study would be completed with a team of experts in this field as well as with the help of plant staff.

Project Evaluation & Analysis

Effective digestion of algae has the potential to provide significant cost-savings through production of methane and the resultant avoided costs for purchase of natural gas and/or electricity to power the plant. In addition, current supplies of landfill gas used to produce electricity are declining as the material in the closed landfill is biodegraded.

The project will be evaluated based on the information gathered from the study itself - specific outcomes, based on the Study protocol, will be reviewed and accepted, and a final Report will provide a series of potential improvements that will allow the Plant to increase the Algae's digestibility within the anaerobic digestion system.

Fiscal Impact

This project is a process improvement which has the potential of increasing the efficiency of the digester system to produce additional methane gas.

It is difficult to quantify the savings at this time because not enough is known about the digestability of the algae and the cost of natural gas and electricity is quite variable.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	100,000	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	100,000	0	0	0
Grand Total	100,000	0	0	0

Project Information Sheet

Project: 827080 Murphy/Evelyn Avenues Sewer Infrastructure Improvements

Category:	Capital	Type:	Wastewater	Department:	Public Works
Origination Year:	2006-07	Fund:	465 Wastewater Management Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Wasterwater Management Fund Reserve

Project Description/Scope/Purpose

This project will provide funding to replace 1,260 linear feet (615 linear feet on Murphy, 645 linear feet on Evelyn Avenue) of 8" diameter sanitary sewer main and 51 service connections with 14" pipes, and to rebuild eight manholes. This line has been in use for approximately 50 years and it requires constant removal of stoppages and backups in Murphy Street. The pipe size increase is made necessary by the Downtown Mall redevelopment, which will add considerably to the current sewer main load. Corrective measures will be needed, due to age, by the numerous service laterals. Design consideration must be given to minimization of disruptions to local businesses and traffic in the Downtown area.

Project Evaluation & Analysis

The project will preserve the City's investment in the infrastructure and prepare the area for redevelopment.

Fiscal Impact

Current infrastructure will be unable to absorb additional demands caused by the Mall development.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	594,077	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	594,077	0	0	0
Grand Total	594,077	0	0	0

Project Information Sheet

Project: 827090 Construction of a New Water Pollution Control Plant

Category:	Infrastructure	Type:	Wastewater	Department:	Public Works
Origination Year:	2007-08	Fund:	465 Wastewater Management Fund	Project Manager:	Lorrie Gervin
Planned Completion Year :	2007-08	Sub-Fund:	300 Wastewater Infrastructure Subfund	Project Coordinator:	none
Funding Sources:	Wastewater Revenue Bonds				

Project Description/Scope/Purpose

This project is intended to provide up to full replacement of the Water Pollution Control Plant. The original components of the Water Pollution Control Plant were completed in 1956, many of which are still in service. Other components of the plant were completed during the next 15-20 years, so that even the newest components are now approximately 25 years old. Many of the components are at or very near the end of their useful life.

This project is being submitted in anticipation of the recommendations from the Strategic Infrastructure Plan (SIP) and the significant work needed to replace the plant in order to maintain current service levels and meet future needs. This project will fund the most cost-effective alternative or mix of rehabilitation and replacement as determined by the SIP.

Project Evaluation & Analysis

In order to address the deteriorating condition of the plant, a project to evaluate repair/replace options and new technology for the plant has been developed and submitted for approval in the 07-08 Budget under the title Strategic Infrastructure Plan (SIP). The goal of this study is to provide an in-depth analysis of the technical and economic feasibility of various approaches to wastewater treatment for the City of Sunnyvale for the next 30-50 years.

Fiscal Impact

This project will be funded through the issuance of utility revenue bonds. Debt will be issued in series as needed, with debt service stepping up through the construction of the facility until fully funded. The planned term of the bonds is 40 years.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	7,650,000	7,650,000	0	0
2010-11	7,803,000	7,803,000	0	0
2011-12	7,959,060	7,959,060	0	0
2012-13	8,118,241	8,118,241	0	0
2013-14	55,204,040	55,204,040	0	0
2014-15	56,308,121	56,308,121	0	0
2015-16	57,434,284	57,434,284	0	0
2016-17	58,582,969	58,582,969	0	0
2017-18	60,340,458	60,340,458	0	0
2018-19	62,150,672	62,150,672	0	-1,261,659
2019-20	0	0	0	-1,299,508
2020-21	0	0	0	-1,338,494
2021-22	0	0	0	-1,378,648
2022-23	0	0	0	-1,420,008
2023-24	0	0	0	-1,462,608
2024-25	0	0	0	-1,506,486
2025-26	0	0	0	-1,551,681
2026-27	0	0	0	-1,598,231
20 Year Total	381,550,845	381,550,845	0	-12,817,323
Grand Total	381,550,845	381,550,845	0	-12,817,323

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